APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
08/779,457	01/07/97	CARTER	P P0986P2

EXAMINER

HM11/1221

DRAGER, K

ART UNIT	PAPER NUMBER
1646	47

GENENTECH, INC.
1 DNA WAY
SOUTH SAN FRANCISCO CA 94080-4990

DATE MAILED: 12/21/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

Responsive to communication(s) filed on Request for CPA

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-33, 40-42 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.
Claim(s) _____ is/are allowed.
Claim(s) 1-33, 40-42 is/are rejected.
Claim(s) _____ is/are objected to.
Claim(s) _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
The drawing(s) filed on _____ is/are objected to by the Examiner.
The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
The specification is objected to by the Examiner.
The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.
☐ received in Application No. (Series Code/Serial Number) _____.
☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of Reference Cited, PTO-892
Information Disclosure Statement(s), PTO-1449, Paper No(s). 3
Interview Summary, PTO-413
Notice of Draftperson's Patent Drawing Review, PTO-948
Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

Part III: Detailed Office Action

FORMAL MATTERS

1. The request filed on 9-28-98 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/779457 is acceptable and a CPA has been established. An action on the CPA follows.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The specification should be amended to refer to the new address for the ATCC depository.

Any objections, rejections, and/or concerns not herein restated have been withdrawn.

3. Applicant's arguments filed 2-2-98 as Paper No 9 have been fully considered but they are not persuasive. See the arguments following the rejection below.

4. ***Rejections Over Prior Art:***

Claims 1-33 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Snodgrass et al.

Snodgrass et al disclose a novel hematopoietin receptor having a WSX motif, which is now known as one form of the Ob/leptin receptor (see the claims). At col 2. Lines 57-59 it is taught that this receptor can be used to screen for ligands or to make antibodies (col 5) . While Snodgrass et al did not expressly disclose antibodies to this WSX receptor, or the identity of the ligand as leptin, in view of the fact that the receptor has been identified as a hematopoietin receptor with a WSX motif, it would have been prima facie obvious to used this WSX receptor to make the various claimed antibodies that would possess all of the properties/characteristics of the claims, consistent with the teachings in this prior art that antibodies to the WSX receptor could be made.

Although the claims have been amended to state that the antibodies specifically binds the mature WXS receptor of Seq ID No. 2 (1165 amino acids), which is the Ob or leptin receptor, or that it binds to a portion of the receptor variant that applicants refer to as 13.2 of Seq Id No. 2, or

the antibodies are defined by a deposit number, this rejection is maintained for the reasons of record because the prior art still appears to render the claims prima facie obvious. Applicants have argued that the prior art is not enabling according to *In re Payne, Durden & Weiden,* because the prior art only disclosed a partial cDNA clone , which does not enable the full length clone and the resultant use of such to make antibodies that would render the claims prima facie obvious. The examiner concedes, as was stated in the first office action, that the prior art did not disclose the full length clone of their hematopoietin receptor; however, this reference is clearly enabling for the full length receptor based on all of the other information provided therein for an obvious method of obtaining the full length receptor transcript that is now known as a form of the human Ob receptor.

It would also appear that part of applicants conclusion is based on the fact that the prior art referred to its receptor as a hematopoietin receptor, namely HuB1.219, whereas the receptors of the instant invention are referred to as Ob receptor. The name of a protein is not binding and, as is well known in the protein art area, the name of a protein is subject to vary drastically or change (and often does) as a result of the specific activity that a particular scientist is studying the protein for, which in many cases have pleiotropic activities-especially for cytokines This is true for many other cytokines and their cognate receptors, and exemplary of such is the instant receptor protein or its cognate ligand, which are referred to as the Ob protein/leptin protein. Another example of this is when earlier work on a protein that regulate body weight was referred to as "Appetite suppression factor", but then the art recognized that this same protein, based on the identifying and synonymous physical features, was the obese or Ob protein. Now most of the art refers to this same protein as leptin. In a similar manner the receptor to this ligand was initially referred to as a hematopoietin receptor, namely HuB1.219, but then the work by others, like that of the instant inventors, referred to their receptor as the Ob receptor, yet others in the art referred to this receptor as the leptin receptor. Despite what the receptor is referred to as, it is evident that they are the same receptors, with the exception of the distinct variant forms of this receptor. Conclusive evidence of this comes

from the fact that each of the art have recognized that the receptor is a hematopoietin receptor, wherein the receptor has a WSXWS motif that is characteristic of receptors in this Hematopoietin Receptor Superfamily. But more importantly, it is evident that the receptors are the same, despite the different names used to identify it, based on the fact that the sequences that were known and disclosed are substantially the same or overlap (see the 1-569 of Snodgrass et al as compared to residues 114-682 of the human long form as in Seq ID No 4 of the instant application). Applicants have not proffered any comparative evidence in the form of Declaration evidence to prove that the prior art receptor is not the same as the receptor of these claims. Therefore, the name of the receptor protein is not sufficient to identify or characterize a protein, rather it is the physical features such as the molecular weight, the sequence and other physical features that act as the "blue-print or finger-printing" to identify/characterize a protein.

The Examiner position for the obviousness of the full Ob receptor and for the preparation of antibodies to this receptor is clearly **obvious** from Snodgrass et al. For example, Snodgrass et al admits that their sequences represents a partial sequence/partial clone (col 2, line 60, col 3-4, col 15), but based on all of the other teachings, procedures/ methods and guidance set forth at col's 3-16, one having ordinary skill in the art would have more than reasonably been able to obtain the full length receptor, including all of the extracellular domain, the transmembrane domain and the cytoplasmic/intracellular domain (col 4, lines 34-39). In fact, cols 3 line 44-51; col 4, line 34+; and col 10, lines 34+ specifically discuss the means and desire for obtaining the full length receptor. Also particularly taught is that various human tissues that were probed to detect for the presence of the receptor yielded the presence of two different size mRNAs, which suggested "that there may be another homologous gene or there is alternatively splicing of a single RNA transcript" (col 15, lines 18-25). Even though the full length of the receptor was not disclose, the **extremely large portion** of the amino acid sequence for the receptor (569 residues as in Seq Id No 3) is overwhelming evidence, in conjunction with the other identifying characteristics such as those

set forth at col 15, that the disclosed sequence was in fact a hematopoietin receptor, whose full length could be obtained from the numerous teachings in the patent as cited above.

Contrary to applicant's position, the partial clone for the receptor of the prior art shares more than just a small percent of the identity to the receptor, and even though its full length amino acid sequence is not 100 % disclosed, based on the substantial amount of sequence identity, one skilled in the art would more than reasonably conclude that the human form of the receptor was the same-particularly in view of the fact that the Snodgrass et al patent clearly state that their receptor was a partial clone. Given this teachings, the skilled artisan would have found it obvious to follow the additional teachings of Snodgrass et al in order to obtain the full length transcript for the human hematopoietin receptor, and to make antibodies to this receptor in a manner as taught and for the reasons taught for use of the antibodies.

The 569 amino acids for the human receptor of the prior art corresponds to or is identical residues 114-682 of the instant human long form, which certainly is a sufficient amount of sequence identity for the skilled artisan to reasonable conclude and predict that the receptors are the same, and that the full length receptor (all of the extracellular domain, the transmembrane domain and the intracellular domain) could have been successfully obtained from all of the above listed teachings that are set forth by Snodgrass et al. And even though this prior art was not aware of the fact that their receptor was the Ob-R, and not ***certain of the fact*** that several variant forms existed, the teachings at col 15, lines 18-25 provided evidence of the possible existence of splice variant, which would have been obvious from using the partial clone of Seq Id No 2 in order to probe a genomic library in order to obtain the full length or other variant forms of the receptor.

Also argued is that the prior art has not taught how to make agonist antibodies, however, the teachings at col 5 and 6 provide clear motivation for making both agonist and antagonist antibodies from the mature or modified receptor. Even though applicants claims define their antibodies by certain deposit number or designations, antibodies having the same

or similar properties to those claimed by applicants would still have been prima facie obvious from the prior art based on all of the above evidence.

It is believed that all pertinent arguments have been answered.

5. All claims are drawn to the same invention claimed in the parent application prior to the filing of this Continued Prosecution Application under 37 CFR 1.53(d) and could have been finally rejected on the grounds and art of record in the next Office action. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing under 37 CFR 1.53(d). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6.. Advisory Information:

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Garnette D. Draper, Art Unit 1646, whose telephone number is (703) 308-4232.** Examiner Draper can normally be reached Monday through Friday, 9:30 A.M. to 6:00 P.M.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist at telephone number (703) 308-0196.

Certain papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1 (CM1). The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December

28, 1993) (see 37 C.F.R. § 1.6(d)). NOTE: If Applicant *does* submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. **NO DUPLICATE COPIES SHOULD BE SUBMITTED** so as to avoid the processing of duplicate papers in the Office.

Official papers filed by fax should be directed to (703) 308-4242. Faxed draft or informal communications with the examiner should be directed to (703) 308-0294. **Please** advise the Examiner at the telephone number above when an informal fax is being transmitted.

GARNETTE D. DRAPER
PRIMARY EXAMINER
GROUP 1800